

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

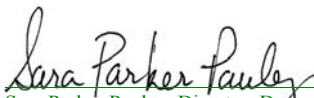
Permit No.	MO-0136441
Owner:	Community R-VI Schools
Address:	Rte 1 Box 196, Laddonia, MO 63352
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Same as above
Facility Address:	Same as above
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream and ID:	See Page 2
USGS Basin & Sub-watershed No.:	See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 4, 2011
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

March 3, 2016
Expiration Date


Irene Crawford, Regional Director, Northeast Regional Office

FACILITY DESCRIPTION

Public School – Domestic Wastewater No-discharge System – SIC #8211 – **No Certified Operator Required**

Single cell storage basin/wastewater irrigation/sludge is retained in lagoon.

Design population equivalent is 59.

Design flow is 9,725 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Average design flow is 5,850 gallons per day (dry weather flows).

Actual flow is 1,819 gallons per day.

Design sludge production is 7.2 dry tons per year.

Outfall #001

Legal Description: SE ¼, SW ¼, Sec. 25, T51N, R7W, Audrain County

UTM Coordinates: X=617329, Y=4336013

Receiving Stream: Unnamed Tributary to Johns Branch (U)

First Classified Stream and ID: West Fork Cuivre River (C) (00185)

USGS Basin & Sub-watershed No.: (07110008-020001)

Receiving Stream Watershed: A gaining stream setting that flows into Johns Branch, an unclassified stream in Audrain County. Johns Branch flows into the West Fork Cuivre River.

Facility Type:

No-discharge Storage and Irrigation System

Design Basis:

Design dry weather flows

Design with 1-in-10 year flows

Design PE 59

Avg Annual

5,850 gpd

9,725 gpd

Storage Basin/Tank:

Freeboard for basin: 1.73 feet

Storage volume (minimum to maximum water levels) 1,167,030 gallons

Storage Capacity (in Days):

Design with 1-in 10 year flows: 120 days

Land Application Site #002:

Legal Description: SW ¼, Sec. 25, T51N, R7W, Audrain County

UTM Coordinates: X=617100, Y=4335976

Irrigation Volume/year: 3,549,625 gallons at design loading (including 1-in-10 year flows)

Irrigation areas: 26.1 acres at design loading of 5 inches per year (30 acres total available)

Application rates: 0.17 inch/hour; 1 inch/day; 3 inches/week; 5 inches/year

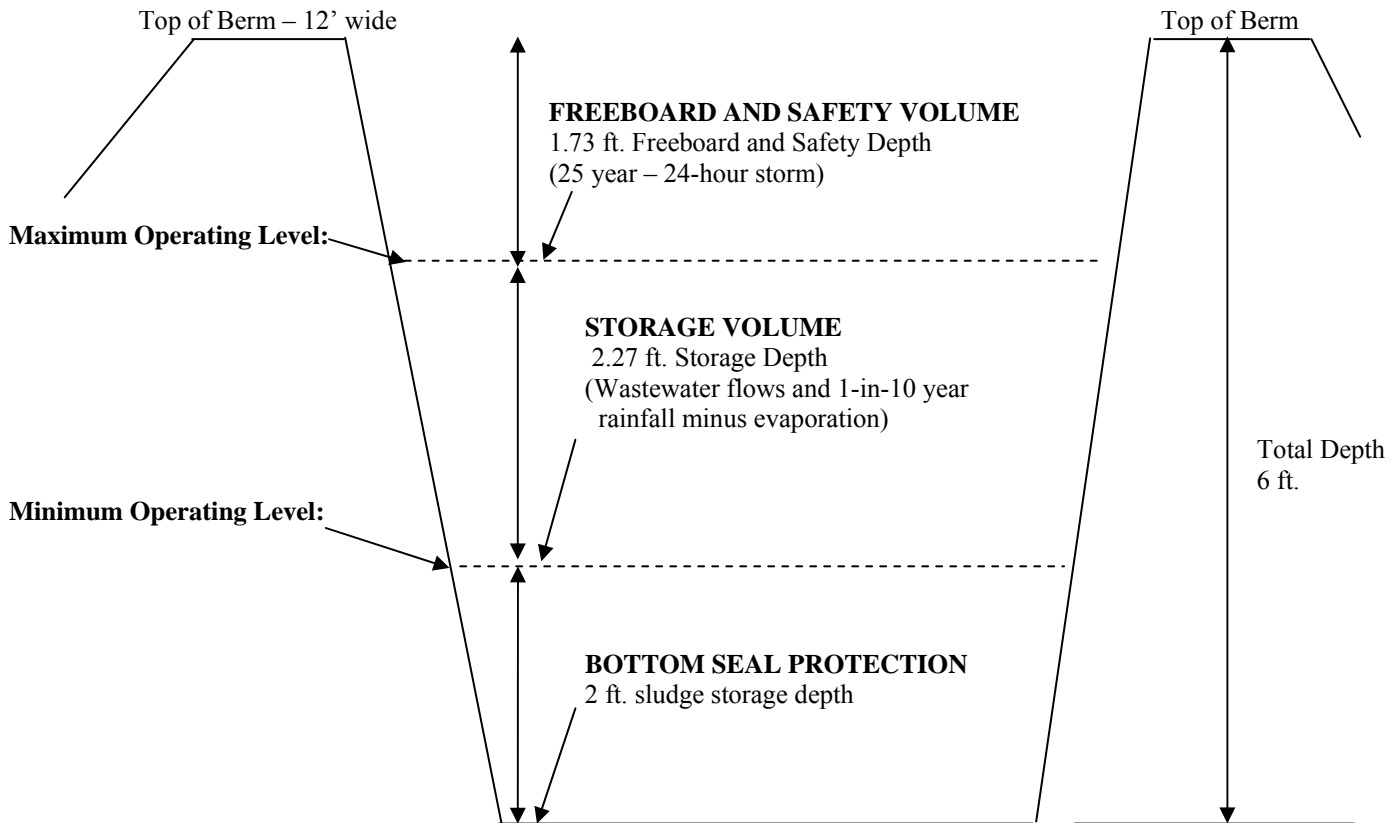
Field slopes: less than 5 percent

Equipment type: Traveling gun

Vegetation: Row crops

Application rate is based on: Hydraulic loading rate

LAGOON PROFILE



<u>Lagoon Dimensions:</u>	<u>(Length x Width)</u>	<u>Surface Area</u>	<u>Depth from Bottom</u>	<u>Pump down depth (from berm)</u>
Center Line Top Berm:	<u>356 circular</u>	<u>99,538</u> sq. ft.	by <u>6</u> feet depth	
Inside Top Berm:	<u>350 circular</u>	<u>96,211</u> sq. ft.	by <u>6</u> feet depth	
Maximum operating level:			<u>4.27</u> feet depth	<u>1.73</u> feet
Minimum operating level:			<u>2.0</u> feet depth	<u>4</u> feet
Aerobic BOD design basis:			<u>2.0</u> feet depth	<u>4</u> feet
Storage volume (minimum to maximum water levels): <u>1,167,030</u> gallons				
Berm top width: <u>12</u> feet Berm runoff area: <u>3,327</u> sq. ft.				
1-in-10 year annual storm water flows into lagoon (R-E): <u>88,223</u> cu. ft. (659,954 gallons)				

A. IRRIGATED WASTEWATER LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 7	
					PERMIT NUMBER MO-0136441	
The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective upon issuance and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND IRRIGATED WASTEWATER PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001 – Lagoon/Storage Basin Operational Monitoring (Notes 1 & 2)</u>						
Lagoon Freeboard (Note 3)	feet	*			once/month	measured
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2012</u> .						
<u>Land Application Site #002 - Land Application Operational Monitoring (Note 2)</u>						
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2012</u> .						
<u>Land Application Site #002 - Irrigated Wastewater (Notes 2 & 4)</u>						
Total Kjeldahl Nitrogen as N (Notes 4 & 5)	mg/L	*			once/year	grab
Nitrate Nitrogen as N (Notes 4 & 5)	mg/L	*		*	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2012</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

* Monitoring requirement only.

Note 1 - **No-discharge facility requirements**. Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year, 365-day rainfall or the 25-year, 24-hour storm event.

Note 2 - Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The summarized annual report is in addition to the reporting requirements listed in Table A. The summarized annual report shall include the following:

- Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility, a summary of testing results for wastewater and soils, and calculations for nitrogen applied and crop removal of nitrogen.

A. IRRIGATED WASTEWATER LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 3 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 4 - Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. If irrigation did not occur during the report period, report as "No Irrigation".

Note 5 - Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. If the nitrogen application exceeds a rate of 150 pounds total nitrogen per acre per year, and/or the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, see Special Condition #7 (j) for additional requirements.

C. SPECIAL CONDITIONS

1. Emergency Discharge. An emergency discharge from wastewater storage structures may only occur if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. **Discharge for any other reason shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place once per day while discharging. Test results are due on the 28th day of the month after the cessation of the discharge. Permittee shall monitor for the following constituents:

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand ₅	mg/L
Total Suspended Solids	mg/l
Total Ammonia Nitrogen	mg/L
Temperature	°C
pH – Units	SU

2. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B)1. or 2. within 90 days of notice of its availability. The permittee shall obtain department approval for closure or alternate use of the facility.
3. Water Quality Standards
- a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
- (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
4. This permit may be reopened and modified, or alternatively revoked and reissued, to:

C. SPECIAL CONDITIONS (continued)

- (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
- (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
- (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

5. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

6. Lagoons and earthen basins shall have a liner that is designed, constructed, and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.

7. Wastewater Irrigation System.

- (a) Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
- (b) Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. The lagoon shall be operated so that the maximum water elevation does not exceed 1.73 feet below the Emergency Spillway except due to exceedances of the 1-in-10 year, 365-day or 25-year, 24-hour storm events according to National Weather Service data. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- (c) Emergency Discharge. Lagoons and earthen storage basins should have an emergency discharge to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The discharge shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
- (d) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
- (e) Saturated/Frozen Conditions. There shall be no irrigation during ground frost, frozen, snow covered, or saturated soil conditions, or when precipitation is imminent or occurring.
- (f) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.
- (g) Public Access Restrictions. Public access shall not be allowed to public use area irrigation sites when application is occurring.
- (h) Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to land application (not storage) to public use areas.
- (i) Operation and Maintenance Manual.
The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.
- (j) Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. Hydraulic application rates exceeding 60 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: $(\text{Total N}) \times (0.226) \times (\text{inches per acre irrigated}) = \text{pounds total N per acre}$. Where Total

C. SPECIAL CONDITIONS (continued)

$N = [\text{Total Kjeldahl Nitrogen (TKN) as N}] + [\text{Nitrate Nitrogen as N}]$. If the applied wastewater exceeds 150 pounds total nitrogen per acre/year, the permittee must reduce the application rates or submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown. PAN availability factors for surface application are: $[\text{Ammonia N} \times 0.6] + [\text{Nitrate N} \times 0.9] + [\text{Organic N} \times 0.6] = \text{PAN}$. If the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, then the facility shall submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown.

- (k) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
- 8. Land Application Sites. To add additional land application sites or convert any of the land to public use areas, a construction permit and permit modification may be required. The facility shall contact the Department for a written determination. Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Northeast Regional Office in accordance with Special Condition #7 (i).
- 9. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
- 10. Outfalls must be marked in field. The outfalls and land application fields shall be marked on the aerial or topographic site map submitted with the permit application.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" signed by the seller and buyer of the facility, along with the appropriate modification fee.

PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit's expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

TERMINATION

In order to terminate this permit, the permittee shall notify the department by submitting Form J, included with the State Operating Permit. The permittee shall complete Form J and mail it to the department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan shall be submitted to the department and approved prior to initiating closure activities.

DUTY OF COMPLIANCE

The permittee shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal. This permit authorizes only the activities described in this permit.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF INITIAL PERMITTING
OF
MO-0136441
COMMUNITY R-VI SCHOOLS

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major ☐, Minor ☒, Industrial Facility ☐; Variance ☐;
Master General Permit ☐; General Permit Covered Facility ☐; and/or permit with widespread public interest ☐.

Part I – Facility Information

Facility Type: NON-POTW
Facility SIC Code(s): 8211

Facility Description:

The facility is a no-discharge system consisting of a single storage basin with land application of wastewater. Land application is by traveling gun and takes place on approximately 30 acres of row crops. The storage cell has a working volume of 1,167,030 gallons between the two (2) foot and 4.27 foot levels. The system is designed for a daily dry weather flow of 5,850 gallons. Water use records show an actual average daily flow of 1,819 gallons.

A geologic evaluation has been performed at the site, and it was determined to have slight overall geologic limitations, with the other possible ratings being moderate or severe.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
☒, - N/A

Application Date: August 5, 2010
Expiration Date: N/A – new permit
Last Inspection: 04/28/10 In Compliance ☐ Non-Compliance ☒

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.015	No Discharge	Domestic	≈4.8

Outfall #001/Land Application site #002

Legal Description: SW ¼, SW ¼, Sec. 25, T51N, R7W

UTM Coordinates: X =617329 , Y = 4336013

Receiving Stream: Unnamed Tributary to Johns Branch (U)

First Classified Stream and ID: West Fork Cuivre River (C) (P) (00185)

USGS Basin & Sub-watershed No.: (07110008 – 020001)

Receiving Water Body's Water Quality & Facility Performance History:

An inspection was conducted on April 14, 1975, by a member of the Department. During the inspection the facility was found to be discharging and was required to obtain a Missouri State Operating Permit. The MSOP had an estimated flow of 12,000 gallons per day. A letter was sent on February 11, 1976, to the Community R-VI School explaining that an engineering report was required to be submitted to the Department by March 31, 1976, for the Schedule of Compliance in MSOP #MO-0087556 to meet final effluent limits.

On April 30, 1976, a request for an extension was received by the Department for submitting the engineering report. On May 17, 1976, the Department granted a 90-day extension for the submittal of an engineering report required by the Schedule of Compliance. On January 11, 1977, the Department sent a letter to the school stating that the engineering report had not been received and Discharge Monitoring Reports had not been submitted since April of 1976. On February 18, 1977, a letter was received from the school explaining that the school board had tentatively approved to try and set up an irrigation system to irrigate some of the land farmed by the Future Farmers Association.

On March 18, 1977, a letter was received by the Department explaining that the school board had approved the plans for an irrigation system. The responses stated that per our telephone conversation, the lagoon's dispersal drain was closed and blocked on February 23, 1977. The letter stated that the school was in the process of purchasing two sprinkler heads, base stands, and a gasoline engine to run the centrifugal pump. The response stated that plastic pipe would be connected to the sprinkler heads west of the lagoon and uphill from the lagoon to irrigate an area approximately 150 feet by 300 feet.

On May 12, 1977, an inspection of the WWTF was conducted by a member of the Department. One of the two discharge pipes was uncapped. The report stated that both discharge pipes must be concrete-capped in order to establish a no-discharge facility. On June 7, 1978, a final inspection of the WWTF was conducted by a member of the Department. During the inspection brush, high weeds, and small trees were observed growing on the lagoon berms and there was no road leading to the lagoon. The facility was directed to mow and to remove the brush and small trees from the lagoon berms as well as install a road to access the lagoon. On November 22, 1978, a letter was sent to the facility explaining that the discharge from the WWTF had been permanently eliminated; therefore the MSOP #MO-0087456 was terminated.

An inspection was conducted on June 24, 1997, and the facility was not discharging. It was recommended that the cattails in the lagoon be removed and warning signs be posted.

On December 6, 2001, the Department received a telephone call from Mr. Mike Lewden, Superintendent of the Community R-VI School, requesting assistance. According to Mr. Lewden the school's diesel fuel piping system had leaked underground and fuel had entered the lagoon system. Mr. Lewden requested technical assistance in lowering the lagoon level to contain the diesel as well as instruction on the daily operation of the lagoon. An overflow pipe for emergency overflows was observed. The school had obtained the services of a local lagoon pumping contractor to irrigate from the lagoon. The school had attempted to burn the diesel off the grass from the berm and the area northeast of the lagoon where some of the diesel had skimmed off the lagoon through the emergency overflow and discharged to the ditch.

During the April 28, 2010 compliance inspection, the lagoon was found to be discharging, and was required to obtain an MSOP for the facility.

Comments:

The facility is a no-discharge system, therefore effluent limits have not been included in the permit. The facility must not discharge except during periods of precipitation that exceed the emergency conditions of the one (1)-in-10-year, 365-day chronic rainfall total or the 25-year, 24-hour storm event. The facility is to take all feasible steps to irrigate and prevent discharge. If emergency discharge is necessary, daily monitoring must be performed for the parameters listed in the permit.

Part IIA – Operator Certification Requirements

Not Applicable ☒; This facility is not required to have a certified operator.

Part IIB– Operational Monitoring

As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☐
 Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
 Losing [10 CSR 20-7.015(4)]: ☐
 Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
 Special Stream [10 CSR 20-7.015(6)]: ☐
 Subsurface Water [10 CSR 20-7.015(7)]: ☐
 All Other Waters [10 CSR 20-7.015(8)]: ☒

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to Johns Branch	U	---	General Criteria	07110008	Central Plains/Cuivre/Salt
West Fork Cuivre River	C	00185	AQL, LWW, WBC***		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

** - Ecological Drainage Unit

*** - UAA conducted in May, 2007 and reviewed on November 21, 2007. The WBC use was retained.

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ☒.

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - No effluent limits have been assigned, since the facility is no-discharge.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ -No discharge facility, no degradation is proposed.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS, SLUDGE, & SEWAGE SLUDGE:

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

☒ - Sludge is to be retained in the lagoon.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ☒.

The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable ☒.

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Not Applicable ☒.

A RPA was not conducted for this facility.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm.

Not Applicable ☒;

Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW & INFILTRATION (I&I) – PREVENTION/REDUCTION:

Sanitary Sewer Systems (SSSs) are municipal wastewater collection systems that convey domestic, commercial, and industrial wastewater, and limited amounts of infiltrated groundwater and storm water (i.e. I&I), to a POTW. SSSs are not designed to collect large amounts of storm water runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as SSOs. SSOs have a variety of causes including blockages, line breaks, sewer defects that allow excess storm water and ground water to overload the system, lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. A SSO is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. SSSs can back up into buildings, including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, they are considered SSOs.

Not Applicable ☒;

This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable ☒;

This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Not Applicable ☒;

At this time, the permittee is not required to develop and implement a SWPPP.

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ☒;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

Not Applicable ☒;

Wasteload allocations were not calculated because this facility is no-discharge.

WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ☒;

A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Not Applicable ☒;

At this time, the permittee is not required to conduct WET test for this facility.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable ☒;

This facility does not discharge to a 303(d) listed stream.

Part V – Effluent Limits Determination

There are no effluent limits associated with this no-discharge facility. However, the following monitoring is required of the land applied wastewater.

MONITORING REQUIREMENTS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Total Kjeldahl Nitrogen as N	mg/L	9	*			<u>N/A</u>	<u>N/A</u>
Nitrate Nitrogen as N	mg/L	9	*			<u>N/A</u>	<u>N/A</u>
Basin Freeboard (all basins)	feet	9	*			<u>N/A</u>	<u>N/A</u>
Rainfall	inches	9	*			<u>N/A</u>	<u>N/A</u>
Irrigation Period	hours	9	*			<u>N/A</u>	<u>N/A</u>
Volume Irrigated	gallons	9	*			<u>N/A</u>	<u>N/A</u>
Application Area	acres	9	*			<u>N/A</u>	<u>N/A</u>
Application Rate	inches	9	*			<u>N/A</u>	<u>N/A</u>

* - Monitoring requirement only.

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

In addition to the monitoring requirements in the table above, the following parameters must be monitored daily during discharge events.

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	9	*			<u>N/A</u>	<u>N/A</u>
BOD ₅	mg/L	9	*			<u>N/A</u>	<u>N/A</u>
TSS	mg/L	9	*			<u>N/A</u>	<u>N/A</u>
Ammonia	mg/L	9	*			<u>N/A</u>	<u>N/A</u>
Temperature	°C	9	*			<u>N/A</u>	<u>N/A</u>
pH	Standard Units	9	*			<u>N/A</u>	<u>N/A</u>

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

Total Kjeldahl Nitrogen - Monitoring to ensure that excessive amounts of Nitrogen are not applied by this facility.

Nitrate Nitrogen as N - Monitoring to ensure that excessive amounts of Nitrogen are not applied by this facility.

Basin Freeboard – Monitoring to ensure adequate safety volume in the storage cell.

Rainfall - Monitoring to determine compliance with irrigation requirements.

Irrigation Period - Monitoring to determine compliance with irrigation requirements.

Volume Irrigated - Monitoring to determine compliance with irrigation requirements.

Application Area - Monitoring to determine compliance with irrigation requirements.

Application Rate - Monitoring to determine compliance with irrigation requirements.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

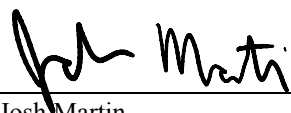
For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

☒ - The Public Notice period for this operating permit is tentatively schedule to begin on January 21, 2011 or is in process.

DATE OF FACT SHEET: December 13, 2010

Submitted by

Josh Martin, Environmental Engineer
Northeast Regional Office
(660) 385-8000
josh.martin@dnr.mo.gov



Josh Martin

Date

Reviewed by

Philip R. Wilson, Environmental Engineer
Northeast Regional Office
(660) 385-8000
philip.wilson@dnr.mo.gov

Philip R. Wilson, P.E.

Date